REMARKS

In the present Amendment, the subject matter of claim 5 has been incorporated into claim 1, and claim 5 has been canceled. Upon entry of the Amendment, claims 1, 3, 4, and 6 to 31 will be pending in the application. Claims 6, 8, and 10 to 18 have been amended in view of the amendment to claim 1. Therefore, not new matter has been added. Entry of the Amendment "after final" is proper because Applicants is merely combining claims, and the Amendment places the case in condition for allowance, as discussed below.

The Office Action contains six (6) rejection under 35 U.S.C. § 103, as follows:

> Claims 1, 3 and 4 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over US Patent Number 5,986,857 to Hirano *et al.* ("Hirano '857");
>
> Claims 5-7, 12, 17-21, 24, 26 and 31 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Hirano '857, in view of US Patent Number 5,901,021 to Hirano *et al.* ("Hirano '021");
>
> Claims 11, 13-16, 25 and 27-30 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hirano '857 and Hirano '021 as applied to claim 5 above, and further in view of US Patent Number 6,490,139 to Hayashi *et al.* ("Hayashi '139");
>
> Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Hirano '857 and Hirano '021 as applied to claim 5 above, and further in view of US Patent Number 5,764,453 to Postma *et al.* ("Postma '453");
>
> Claims 11, 13-16, 25 and 27-30 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hirano '857 and Hirano '021 as applied to claim 5 above, and further in view of US Publication Number 2003/0214745 to Lau ("Lau '745"), in even further view of US Patent Number 6,144,534 to Xue *et al* ("Xue '534"); and
>
> Claims 11, 13-16, 25 and 27-30 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hirano '857 and

Hirano '021, and further in view of US Patent Number 6,326,092 to Ikarashi *et al.* ("Ikarashi '092").

Referring to page 4 of the Office Action, the Examiner asserts that a person of ordinary skill in the art would have used the multilayer film insulative layer of Hirano '021 in the MR sensor of Hirano '857 to replace the insulative layer 52.

Figure 1 of Hirano '857 provides a cross sectional view of a thin film magnetic head of Hirano '857. *See* col. 5, lines 52-53. In downwards order, the magnetic head thereof includes

Upper gap insulative layer	59
Second interlayer	58
Electrode	57
MR element	56
Lower gap insulative layer	55
First interlayer	54
Lower shielding layer	53
Insulative layer	52
Al_2O_3 TiC Substrate	51

See col. 6, lines 22-53. Hirano '857 discloses that lower gap insulative layer 55 and upper gap insulative layer 59 may include a diamond-like carbon ("DLC") film. *Id.* The lower gap insulative layer 55 and upper gap insulative layer 59 are not provided directly on the Al_2O_3 TiC Substrate 51. In this regard, Figure 1 of Hirano '857 is deficient in that the thin film magnetic head (i) contains no protective layer and (ii) a diamond-like carbon film is not provided directly on a substrate.

Figure 7 of Hirano '857 shows a "prior art" thin film magnetic head, including in downwards order shielding layer 8, insulative layer 22, lead layers 6-A and 6-B, insulative layer 21, shielding layer 3, insulative layer 20, and substrate 1. *See*, col. 1, lines 23-30. In this regard, the "prior art" thin film magnetic head is different from a magnetic head in which a diamond-like carbon film, an insulating layer, a lower shield layer, a lower gap layer, a magnetoresistive

element, an upper gap layer, an upper shield layer, and a protective layer are provided in this order on one side surface of a substrate.

In contrast, Figure 6 of Hirano '021 discloses a multilayer structure of a diamond-like carbon coating, including in downwards order diamond-like carbon coating 54, SiO_2 layer 53, diamond-like carbon coating 52, and SiO_2 layer 51. Figure 6 of Hirano '021 does not show a thin film magnetic head.

Applicants respectfully submit that the multilayer structure shown in Figure 6 of Hirano '021 fails to alleviate the deficiencies of the thin film magnetic head shown in Figure 1 of Hirano '857. The thin film magnetic head shown in Figure 1 of Hirano '857 would result in a thin film magnetic head still deficient in that the thin film magnetic head (i) contains no protective layer and (ii) a diamond-like carbon film is not provided directly on a substrate. The proposed replacement would still result in a thin film magnetic head containing no protective layer.

Further, the multilayer structure shown in Figure 6 of Hirano '021 fails to alleviate the deficiencies of the "prior art" thin film magnetic head shown in Figure 7 of Hirano '857. The proposed replacement would result in a thin film magnetic film that is still different from a magnetic head in which a diamond-like carbon film, an insulating layer, a lower shield layer, a lower gap layer, a magnetoresistive element, an upper gap layer, an upper shield layer, and a protective layer are provided in this order on one side surface of a substrate.

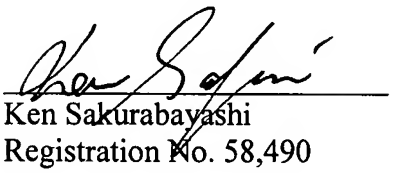
Furthermore, Applicants respectfully submit that the rejection is a hindsight reconstruction of the claimed invention. Figure 1 of Hirano '021 discloses a thin film magnetic head, including in downwards order an upper protective layer 15, a recording head forming layer 14, a separation layer 13, a reproducing head forming layer 12, a lower protective layer 11, a

slider surface 1a. The cited art fails to provide the motivation to select a structure in which a diamond-like carbon film, an insulating layer, a lower shield layer, a lower gap layer, a magnetoresistive element, an upper gap layer, an upper shield layer, and a protective layer are provided in this order on one side surface of a substrate. Hirano '021 at column 2, lines 25 to 31 discloses that the diamond-like coating thereof is excellent in head protectiveness, during a grinding step or the like, as well as in wear resistance. This disclosure in Hirano '021 fails to provide the motivation to select a structure in which a diamond-like carbon film, an insulating layer, a lower shield layer, a lower gap layer, a magnetoresistive element, an upper gap layer, an upper shield layer, and a protective layer are provided in this order on one side surface of a substrate. In fact, this disclosure in Hirano '021 is directed at the diamond-like coating thereof, rather than at the order or presence of a diamond-like carbon film, an insulating layer, a lower shield layer, a lower gap layer, a magnetoresistive element, an upper gap layer, an upper shield layer, a protective layer, and a substrate.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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